

ABSTRACT OF THE DISCLOSURE

The present invention provides improved processes and apparatus for reacting high flow rates of one or more gaseous reactants in tubular reactors. The improved processes and apparatus allow such reactions to be carried out with a low pressure drop across the reactor and without excessive erosion due to solid particles carried with or picked up by the gaseous reactants. A process of this invention is basically comprised of the steps of swirling a gaseous reactant which may contain or pick up solid particles in a first annular plenum chamber followed by a second larger diameter annular plenum chamber and then introducing the gaseous reactant and solid particles into a reactor by way of two or more radial slots whereby said gaseous reactant and solid particles are caused to flow into said reactor and are uniformly distributed therein.